aristol. In syphilitic and indolent ulcers or chancres the latter acts exceedingly well. Great cleanliness is necessary, especially about the female genitals. In fresh cases aristol has no advantages over iodoform.

2. Aristol was made use of with the best results in acute otitis media and otorrhœa in place of boracic acid, in lupus laryngis, laryngorrhœa, in ulcerations of the penis, and ulcers of the leg. In burns aristol (with oil or lanolin 10 per cent.) relieved pain, and caused rapid cure.

Aristol possesses the advantages of iodoform, and can even be used in children, with whom iodoform must be used carefully.

Aristol has not a penetrating odor like iodoform.

MEDICINE.

UNDER THE CHARGE OF

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The Principles of the Treatment of Diabetes Mellitus.

Pavy (*International Med. Congress*, 1890), referring to the nature of diabetes, says that it is with the carbohydrate principles that the faulty action lies. These, instead of being consumed and utilized, remain and are eliminated as carbohydrates. This is true, whether the carbohydrates are introduced in the food, or whether they are formed by the splitting-up of nitrogenous matters within the body.

With regard to the presence of sugar in ordinary urine, the author made a series of observations some years ago in which he definitely proved that it existed there in small quantities. He also found it normally present in the blood. A further series of observations made upon the blood of seven cases of diabetes showed that the amount of sugar in it was very greatly increased, and that there was a general agreement between the amount here and that escaping in the urine. The conclusion is, therefore, justified that the larger the secretion of sugar in the urine the worse in every direction is the condition of the patient suffering from diabetes; since the unnatural state of the blood cannot but induce a deviation from healthy action throughout the system.

The question arises as to the source of this abnormality of the blood. The long experience of the author, and the experiments carried out by him, convince him that it is due to sugar reaching the general circulation in a manner it ought not. In the normal condition the ingested carbohydrates are restrained by the liver from entering the general circulation. The author has proved this to be the case by analyzing the blood in the portal vein and that in the general circulation, and showing that a large preponderance of sugar is encountered in the former, if examined after the ingestion of carbohydrate matter. It is necessary, however, to bear in mind that this sugar here found is not in the form of glucose, and that an ordinary copper test can therefore not be depended upon to give accurate results.

These preliminary remarks show the nature of the faulty condition that has to be dealt with by treatment. If it were only a question of the waste of the carbohydrate principles of the food, there would be no reason against their being eaten and allowed to run off in the urine, provided sufficient other nourishment were given. The real harm is the result of the altered constitution of the blood, and the effects on the system in general which this alteration produces.

It may not be possible to restore the transformative or assimilative power which has been impaired or lost. Hence the only way of arriving at the desired end is to withhold from entering into the system the alimentary principles which lead to the passage of sugar through the circulation. These remarks apply to the class of cases embracing the majority of those beginning after middle life, in which the discharge of sugar is susceptible of control by treatment.

In the course of all the author's experience he has never known anything serious to arise as long as the urine was kept free from sugar. When, on the other hand, sugar is being voided, not only is the patient subjected to symptoms consequent thereon, but he is in constant danger of the supervention of more serious issues known to follow upon the disease.

The first consideration, therefore, is to control by dietetic measures the passage of sugar through the system. The real point, however, to be aimed at is the restoration of the assimilative power over the carbohydrate elements of the food. What most conduces to this restoration is the maintenance of a normal state of the system by keeping sugar from passing through it, and in this way bringing a healthy condition of the body to bear in helping to promote a removal of the faulty state.

Opium and its derivatives are, in the author's opinion, the medicinal agents which most assist in the actual cure of the disease and the restoration of the assimilative power. The benefit to be derived from these agents is often seen in cases in which mere dietetic treatment has reduced the sugar to a certain point, but fails to remove it entirely. When cases of a favorable nature are treated by these combined measures, the system of the patient frequently becomes finally able to tolerate a certain amount of carbohydrate food with benefit; but care must always be taken to keep the amount below that which produces an elimination of sugar in the urine.

When a case is found to have the assimilative power restored, it is permissible to call it *cured;* always remembering, however, that a weak point has existed which must not be unduly taxed.

ON THE INFLUENCE OF HUNGER ON THE SUSCEPTIBILITY TO INFECTIOUS DISEASES.

CANALIS and MORPURGO (*Fortschr. d. Med.*, 1890, Nos. 18 and 19) refer to the commonly-accepted idea that hunger and other weakening conditions predispose to the development of infectious diseases, but say that this has never yet been proved by detailed experiments, at any rate as regards insufficient nourishment. They give abstracts of the brief notices which have appeared in medical literature bearing upon this subject, and then proceed to detail their own experiments.

The bacilli of anthrax were chosen as those with which to experiment, and pigeons, chickens, and white rats as the animals to be experimented on, since these animals are possessed of comparatively greater resistance to the bacilli, and therefore permitted of observations on differences in the degree of susceptibility.

Series of experiments were performed on pigeons by inoculating them after starving them for several days, or by beginning the starving process immediately after the inoculation was performed, or by starving them first and then beginning to feed them at the time of inoculating them, or, finally, by inoculating at the time the starving was commenced, and later feeding them again. In other cases the whole or the greater part of the pancreas was removed before inoculation, since this gland is especially important to animals which consume cereals.

Observations were also made upon the vitality of the anthrax bacilli after being introduced into the bodies of pigeons.

Experiments of a similar nature were performed on chickens and on white rats, both of which animals are even more resistant to infection by anthrax bacilli.

The effort was also made to determine whether the depression of temperature which accompanies a starving condition was itself the actual cause of loss of immunity against the disease.

The authors deem the following conclusions justifiable:

1. Animals naturally immune from infectious disease can be made susceptible through hunger.

2. Pigeons, usually immune, always die of anthrax when starving is commenced at the time of inoculation.

3. Pigeons which have been starved during six days before inoculation do not take anthrax if feeding is at once commenced immediately after inoculation. If the starvation lasted more than six days they, as a rule, take the disease.

4. The readministration of food will retard the course of, but will not prevent the development of anthrax if the pigeons are allowed to fast during two days after inoculation.

5. Total or partial extirpation of the pancreas usually renders pigeons susceptible to anthrax during a limited time.

6. Anthrax will finally develop in inoculated pigeons, even if starving is not commenced until eight days afterward. Hence:

7. The bacilli of anthrax, introduced under the skin of immune pigeons, remain alive and virulent for several days.

8. The loss of immunity in pigeons cannot depend on the depression of temperature accompanying starvation, since the disease is not taken if a similar depression be produced in other ways, and the animals be meantime abundantly fed.

9. Chickens also may be made susceptible to anthrax through hunger.

10. The majority of the animals of this species died of anthrax if they were made to starve for three to seven days before inoculation, and after it

also until dead. They do not, however, take the disease if starvation is commenced only at the time of inoculation.

11. Adult white rats experimented on remained entirely immune from anthrax, even when allowed to starve a comparatively long time before inoculation.

THE NATURE AND TREATMENT OF TABES.

STRÜMPELL (*Münch. med. Wochenschr.*, 1890, 39, 667), in an interesting article upon this subject, says that, though there are so many and so varied symptoms of tabes, there are certain of them which seem to be almost invariably present. Such are the three initial symptoms—the evidence of sensory irritation in the skin, legs, arms, trunk, or head, the abolition of the patellar reflex, and the characteristic alteration of the pupil. In a later stage are almost constantly seen the development of certain disturbances of sensation, of bladder symptoms, and of ataxia of voluntary motion. To explain these facts, we should have to assume, even if we knew nothing of its pathological anatomy, that the disease was one in which certain tracts of fibres in the brain and cord were affected according to some law. The determination of just which fibres is, however, a matter of exceeding difficulty. That the degeneration is nevertheless systemic seems now proven beyond a doubt.

We may define tabes as an exceedingly complicated disorder of the nervous system, in which there are in the peripheral nerves, spinal cord, and brain numerous tracts of fibres diseased with at least partial involvement as well of the ganglion cells from which the fibres arise. The disease always begins as a degenerative atrophy of the nerve-fibres. Its distribution always stands in the closest relations to the physiological property of the fibres. Certain systems always become easily and completely diseased, while others are more rarely or only slightly affected. The order in which the fibres are attacked is by no means always the same, though certain rules seem to obtain. The rapidity, too, with which the disease extends from one system to another is subject to great variations. Its point of starting, too, may be most variable.

As regards the cause of tabes the author denies the active influence of exposure to cold, excesses, traumatism, and heredity. He agrees entirely with Fournier, the first to claim that tabes occurred almost or quite exclusively in those who had at some earlier period in their lives suffered from syphilis. He has yet to see a case in which the possibility of a preceding syphilitic infection could be positively excluded. It is a mistake, however, to consider tabes as at all a form of tertiary syphilis, due to a syphilitic affection of the vessels; for the anatomical changes are totally different from syphilitic new-formations, and antisyphilitic treatment is usually entirely unavailing. The degenerative changes of tabes are to be considered as the result of a post-syphilitic intoxication of the body. Thus it is exactly analogous to the paralyses seen after diphtheria; which are the result of a widespread degeneration of the nerves, which has nothing anatomically in common with the primary diphtheritic changes. The nerve-lesions in diphtheria are simple degenerative conditions due to the action of a chemical poison arising within the body. The origin of tabes the author believes to be similar to this. As in the case of all other toxic degenerations of like nature, there exists an intimate connection between the nature of the poison and the nerve-fibres acted upon; each poison being a poison for only certain regions of nerve-tissue, and harmless to others. In this way it can be understood why tabes must be a systemic affection. It is also clear that though mercury and iodine may destroy syphilitic new-formations, they need not be at all active against a chemical toxine.

The author believes that the various crises are best accounted for on the ground that they are of toxic origin. In fact, he knows of no other way to explain them with any satisfaction.

In opening his remarks on the therapeutics of tabes the author refers to several points which he thinks deserve more attention than is usually accorded to them. First, that slight or rudimentary cases of tabes are not of rare occurrence. It is possible that such cases, suffering only from the earliest symptoms, may have all the indications of nerve-irritation disappear, and no further advance be made in the disease.

A second important point is, that there is seen in tabes the sudden failure of certain nerve-functions, which may then gradually recover their previous condition—it may erroneously be supposed, under the influence of therapeutic measures. He believes that these conditions are the result of the sudden inhibitory action of the poison on certain nerve-areas, without there being any actual destruction of them. Recovery takes places just as in cases of severe morphine-narcosis, curare-paralysis, and the like, after the action of the toxic agent has ceased.

The third point of prognostic-therapeutic importance is that all circumstances producing over-strain or weakening of the body in general, or particularly of the nervous system, diminish the resisting power of the nerves to the morbific agent; while the reverse is likewise true, that proper hygienic and dietetic measures exert an inhibitory influence upon this agent. The author particularly emphasizes the importance of avoiding all over-exertion in cases which have as yet shown no traces of affection of the gait.

As to the treatment of tabes, it is evident that no great influence can be exerted in any way upon nerve-fibres already atrophied. The treatment by suspension may, in many cases, be followed by temporary symptomatic benefit, but certainly, he believes, never by any permanent good.

The antisyphilitic treatment can be of no avail against the disease as already developed. It may, however, be tried for two reasons. First, it is conceivable that syphilis still exists in the body, and that by the employment of inunctions in early cases of tabes, the development of further changes may be prevented or at least retarded. He confesses that he has not much hope of any such action. A second reason is that a true specific syphilitic affection of the nervous system—as a gumma—may develop, giving rise to symptoms like those of tabes, or that such a growth may be present in addition to the true tabetic changes. Since it is by no means easy to determine this matter positively during life, the energetic and prompt employment of treatment by inunction is highly to be recommended. We have not yet learned the true method of treatment, which is the employment of such methods as will modify or render powerless the chemical processes going on in the diseased body.

A PARASITIC PROTOZOA IN CARCINOMATA.

SJOEBRING (*Fortschr. d. Med.*, 1890, No. 14, 529), in studying the process of nuclear division in the cells of a carcinoma of the breast, noticed peculiar bodies which he subjected to a careful investigation and discovered them to be microörganisms. He describes these and illustrates their life-history in a lithographic plate.

This microörganism first appears in the form of an exceedingly small, round, protoplasmatic body; seeks a cell-nucleus; penetrates it, and remains there during the first stage of its existence. It then passes out into the body of the cell, or even entirely outside of this. In this period of its existence it grows at the expense of the cells of the tumor, and particularly of their nuclei, its destroying influence being exerted not only on the single cells but upon the entire surrounding tissue. When the microörganism has reached full maturity it nearly fills the cell containing it. At this period it surrounds the cell-nucleus, softening its lining membrane, and absorbing its contents into itself; the achromatin of the nuclear protoplasm appearing in the form of hyaline drops, filling the greater part of the plasmodium, and the chromatin forming a little mass among these.

A membrane now develops around the plasmodium, the hyaline drops become changed into a more homogeneous mass; very minute, curved, rod-like bodies develop in this, and are each surrounded by a small, hyaline, highly-refractive mass, which finally becomes distinctly encapsulated. These fully-developed spores, to the number of twenty or thirty, are contained within and fill the plasmodium as in a spore-cyst; through which they probably finally burst. The rod-like bodies probably last of all burst through the capsule of the spore and develop into the young sarcodes at first decribed.

The author was never able to discover a nucleus colorable with hæmatoxylin at any period of the development of the microörganism. On this account he classifies this body as a sporozoa, probably belonging to the group of the microsporidia.

The size of these microörganisms varies greatly, from one or two up to fifteen micro-millimetres in diameter. As regards the frequency of their occurrence the sarcode forms are very numerous, several being found in each cell, apart from those occurring in the nuclei. The larger forms, connected with the spore-formation, are seen much more rarely.

The author has found this parasitic body in six out of seven cases of cancer of the breast in which he has sought for it. In the seventh case it was not to be discovered with certainty.

In two other cases of cancer of other parts of the body, he has sought for and found them.

URIC-ACIDÆMIA.

V. JAKSCH (*Deutsche med. Wochenschr.*, 1890, 33, 741) has examined the blood of patients in the effort to determine:

1. Whether uric acid took part in the acid intoxication occurring in febrile conditions.

2. Whether it took part in the production of gout or attacks of gout.

He refers to the statements which have already been made in support of this view, but says that investigations in the matter have never been carried out on a large number of patients.

In all he examined the blood of 105 cases in a manner described by him. In 9 instances of healthy individuals no uric acid was found. In nervous diseases it was also absent, and the same was true of 9 cases of typhoid fever. In another case of this disease and in one of intermittent fever there was no uric acid present during the elevation of temperature, though it was detected after fever had disappeared.

In the instances of diseases of the liver, stomach, and intestine examined, uric-acidæmia was only observed when anæmia was also present.

The acid was found in diseases of the heart which produced cyanosis, as also in emphysema and pleural exudates. It was constantly present in considerable quantity in the febrile stage of five cases of pneumonia. In six cases of acute articular rheumatism there was no uric-acidæmia observed.

Very considerable quantities of uric acid were found in all the cases of diseases of the kidneys, and in those of primary and secondary anæmias.

These observations seem undoubtedly to prove that uric-acidæmia is not a pathognomonic symptom of gout, and that it is not a factor in the production of the acid intoxication seen in fever. Fever, indeed, appears to influence unfavorably the production of uric-acidæmia.

It is a noticeable fact that it occurs in renal diseases, anæmias, and in all processes in which the blood is overloaded with carbonic acid. Even in pneumonia the fever is not sufficient to neutralize the action of the carbonic acid in producing this condition.

He does not hesitate to state that uric-acidæmia is due to disease of the red blood-cells, the oxygen-carriers of the blood. Thus, in cyanosed conditions the carbonic acid diminishes the vital energy of the blood-cells; in nephritis, they are not capable of neutralizing the large amount of retained uric acid, and in anæmia the cells are not sufficient in number, and uric-acidæmia therefore appears.

THE PATHOLOGY OF PAROXYSMAL HÆMOGLOBINURIA.

COPEMAN (*Practitioner*, 1890, xlv., 3, 161) records a series of careful observations made upon seven cases of paroxysmal hæmoglobinuria. He details the clinical histories of these cases, the important features being that exposure to cold for a short time would be immediately followed by shivering and blueness, with depression of the bodily temperature. An elevation of temperature next took place, accompanied by hæmogobinuria. Various experiments were performed by varying the duration and method of exposure to cold. The influence of local cold was determined by dipping the hands in cold water, etc. The blood was also drawn from the finger and examined during the period of hæmoglobinuria, and the evidences of the destruction of the red blood-corpuscles noticed.

The results of these observations and experiments showed that one of the first and most obvious phenomena of the disease consists in an enormous and rapid destruction of the red blood-cells, depending on the direct influence of cold. The remaining red blood-cells lost consistence and exhibited great irregularity in shape; while the plasma was tinted by the escaped hæmoglobin and contained masses of hæmatin. That these changes were in reality dependent on cold was further shown by the experiment of placing a ligature around a finger and then immersing the finger in cold water. The blood in this finger alone underwent alteration. Accompanying the pigment in the urine was a proteid consisting mainly of globulin. The pigment from the broken-down corpuscles is originally excreted as oxyhæmoglobin, then passes through a preliminary stage of methæmoglobin before becoming converted into acid hæmatin while in contact with the acid urine in the bladder.

The author discusses the nature of the varieties of hæmoglobin, classifying them as—1, acid hæmoglobin (methæmoglobin); 2 and 3, alkaline hæmoglobin (oxy- and reduced); 4, acid hæmatin; 5 and 6, alkaline hæmatin (oxy- and reduced).

Just as acid hæmatin can be changed by the action of reagents into either form of alkaline hæmatin, so methæmoglobin can be converted into either variety of alkaline hæmoglobin, and the process may be repeated backward and forward any number of times.

It appears probable that paroxysmal hæmoglobinuria is only an exaggeration of a physiological phenomenon. The red blood-corpuscles are constantly undergoing destruction in the circulation during health, but the products of this destruction are used up in the system. If the destruction be only, though during some time, just beyond the normal limit, the system is unable to make away with the products, and albumin appears in the urine. If the destruction be great, though only for a short time, hæmoglobin will appear as well; or methæmoglobin if the pigment be retained in the tubules of the kidney or in the bladder for any length of time.

It has been shown by several writers that temporary albuminuria may follow cold bathing or other exposure to cold in persons otherwise apparently healthy. It has also been found that this occurs at time in persons subject to paroxysmal hæmoglobinuria. In the light of what has been stated, the author deems it impossible that either of these affections can be due to disease of the kidneys.

It cannot, however, be denied that there must be some peculiarity of the red blood-cells in paroxysmal hæmoglobinuria which renders them unduly sensitive to the influence of cold. This is probably to be sought in some disorder of the blood-making apparatus which renders the corpuscles less resistant. This is borne out by the fact that the corpuscles in these cases tend to assume fantastic shapes on the slightest pressure, and do not run into rouleaux, even when there has been no paroxysm for a length of time. Syphilis is a probable cause of this diseased condition. It was present in all of the eight cases reported. Malaria and gout may possibly also exert some influence.

THE DIAGNOSTIC VALUE OF TUBERCLE BACILLI IN THE SPUTUM.

Fussell, in 1887, published the results of his examination of the sputum for tubercle bacilli in 100 cases of pulmonary disease, and concluded that the presence of the bacilli was proof positive of the existence of tuberculous phthisis, while their continued absence was good, though not positive, proof of the absence of phthisis.

FUSSELL and KEILY (*Univ. Med. Mag.*, 1890, iii. 85) now publish a further series of 65 cases, in which the examination of the sputum confirms these conclusions. Of the 65 cases, 44 had undoubted physical signs of phthisis; 4 had doubtful physical signs, yet tubercle bacilli were found in all. The authors give the further clinical history of these 4 cases, which later progressed as ordinary cases of phthisis.

8 cases had no physical signs of phthisis, and bacilli were absent from the sputum of all of them. 9 cases had doubtful physical signs, and bacilli were absent in all. These 9 cases were of especial interest, since in some of them it seemed exceedingly probable that phthisis was present. All of them, however, recovered.

CONTRIBUTION TO THE STUDY OF THE MOVEMENTS OF THE STOMACH, PYLORUS, AND DUODENUM.

A valuable paper appears from the pen of ROSSBACH (*Deutsch. Arch. f. klin. Med.*, 1890, B. xlvi. 276) on the movements of the stomach, pylorus, and duodenum. He reviews what has been done by investigators in the study of the subject, and then details his own observations and experiments. The experiments were performed entirely upon dogs, and consisted in first rendering the animal as quiet or as insensible to pain as possible by the use of curare or morphine, then exposing the stomach and preserving it in as normal a condition as possible by the application of warm, wet cloths, or by filling the abdomen with warm physiological salt solution and then covering it with a warm glass-plate. After this preparation, observations were made upon the movements of the stomach and duodenum, and on the state of the pylorus under different conditions of fulness and emptiness of the stomach and under such influences as irritation of the vagus or the ingestion of cold or hot water.

The results of these observations were as follows:

1. *Stomach.* In the case of the stomach when full of food the peristaltic movements were at first weak, and then, becoming stronger, lasted 4–8 hours. They occurred only in the half of the stomach nearest to the pylorus, the other half was entirely free from movements during the whole period of digestion, and compressed only moderately the gastric contents. The movements always began about the middle of the stomach—the first appearance being as though a cord were deeply constricting the organ—and then passed in waves toward the pylorus, each wave consuming about twenty seconds in its passage. The wave-like motion was so deep at the acme of the digestive period that it temporarily obliterated the lumen of the stomach. Especially was this the case as the wave approached the pylorus. The presence of not too large a quantity of cold or warm beverages increased the force of the peristaltic movements. Large amounts of cold water, however, stopped them entirely for a long time, and made the organ icy cold. Deep morphine- or chloroform-narcosis weakened and retarded them greatly, without, however, causing them to cease during digestion. Section of the spinal cord at the region of the second cervical vertebra, or of the œsoph-

ageal vagus, had a similar effect. After section of the cord the general tension of the stomach upon its contents was lost, and as a result the organ became decidedly larger than in the case of animals whose nervous system had remained intact. If after section of the vagus the serous layer of the stomach was irritated by the faradic current, a powerful contraction was produced at the seat of irritation, but did not advance beyond this point. Faradic stimulation of the cut œsophageal vagus, however, even shortly after death, produced powerful, wave-like contractions in the pyloric half of the stomach, similar to those described.

The empty stomachs of dogs which had fasted from twenty-four to seventy-five hours were small, flaccid, and either entirely without movements, or exhibiting only rarely a weak contraction.

2. *Pylorus.* Observations on the pylorus showed that when the stomach was full it was closed during the whole period of digestion, and for the first four to eight hours did not allow a single drop of nourishment to pass it. Toward the end of digestion the finger could with difficulty be pushed through it from the duodenum, but not before this time. The emptying of the stomach took place suddenly in four or five squirts, the result of a single peristaltic contraction no stronger than those which had preceded it. After more inefficient contractions one again succeeded in expelling some of the food, and then again each contraction for a time drove food into the duodenum. These observations prove that the emptying of the stomach is accomplished not only by the gastric contraction, but that the pylorus has the independent power of opening and closing.

As for the condition of the pylorus when the stomach is empty, our knowledge is not so definite. In all the author's experiments on dogs which had had no food for from twenty-four to seventy hours the pylorus was found closed, and resisted the pressure of the finger from the intestine, though not so powerfully as during digestion.

Section of the vagus or decided curarizing of the animal caused the pylorus to open even when the stomach was full; but section of the cervical cord at the second vertebra was without effect. Irritation of the gastric mucous membrane of the stomach increased the contraction of the pylorus; while irritation of the mucous membrane of the pylorus appeared to diminish the gastric peristalsis. This relation probably prevents the stomach from sending too much of its contents into the duodenum at one time.

The ingestion of much cold water intensified the contraction of the stomach for a time, but relaxed the pylorus completely, so that the large amounts of fluid rapidly passed into the intestine, thus preventing too great a dilution of the food. This opening of the pylorus occurred whether the stomach was full or empty.

3. *Duodenum.* During the whole of the process of digestion the duodenum was entirely without movements of its own. Even when mutilated or irritated in most various ways no movement could be produced. The secretion of the intestinal juices, bile, and probably of the pancreatic juice went on, however, continuously during the digestive period. About the time when the pylorus opens, just before the gastric contents pass through it, peristaltic movements began in the duodenum and continued and increased in strength until the stomach had entirely emptied itself.

It is evident that there must be a nervous connection between the innervation of the stomach, of the pylorus, and of the duodenum. The physiological law might be formulated that irritation of the gastric mucous membrane acts reflexly, producing a stronger innervation of the pyloric muscle, and an inhibition of the movements of the duodenum, but finally a relaxation of the pyloric muscle and an irritation of the motor nerves of the muscle of the duodenum. The result of the resting of the duodenum during gastric digestion is clearly to prevent the removal of the intestinal secretions poured out in the bowel, in order that they may remain in the immediate vicinity of the stomach ready to neutralize and act upon the acid gastric contents when these are finally passed out.

SURGERY.

UNDER THE CHARGE OF

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A REMARKABLE CASE OF INTESTINAL OBSTRUCTION.

DR. WALLACE BEATTY (*Dublin Journal of Med. Science*, third series, No. 126) reports in detail a case which he saw with Sir William Stokes and with Dr. Head, and the course of which he summarizes as follows, the patient being a boy ten years of age: A sudden commencement—the first symptom being abdominal pain followed by diarrhœa, and in about twelve hours by vomiting. The symptoms during the first four days not very urgent; his condition then was abdominal pain of moderate severity, tenderness on pressure in the right iliac fossa, some tension of the abdominal walls, a temperature of 99°, a rather weak pulse, and a thinly-furred tongue.

From the fourth day until the nineteenth—*i. e.*, until the termination of the first stage—his condition was: 1. Some diarrhœa; the motions were sometimes liquid, sometimes formed, never scybalous. 2. Some fulness and tension of the abdominal walls; this was not at all great, and seemed to lessen each day. 3. Slight tenderness in the right iliac fossa. 4. Moderate fever, the highest temperature reached being 101°. 5. A small, indistinctly-felt tumor in the right iliac fossa, present at the end of this stage; and 6. No vomiting. Most of this time the boy felt very well and hungry, and was disappointed at being kept on low diet.

The treatment during this stage was a restricted liquid diet, a few drops of Battey's solution every three or four hours, leeches and wet compresses to the right iliac fossa.

The symptoms during the second stage were—a sudden change in the boy's